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Food Security Threat Hurts More Than A Bee Sting

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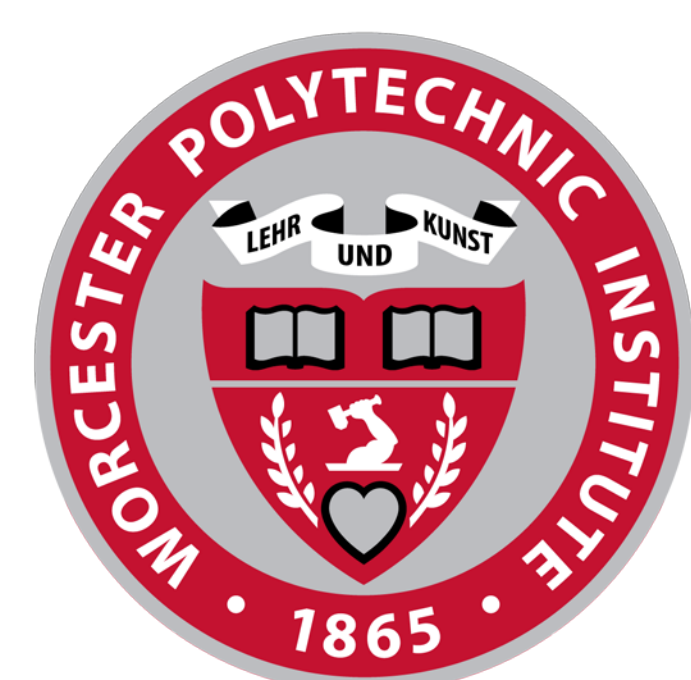
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Food Security Threat: Hurts More Than a Bee Sting

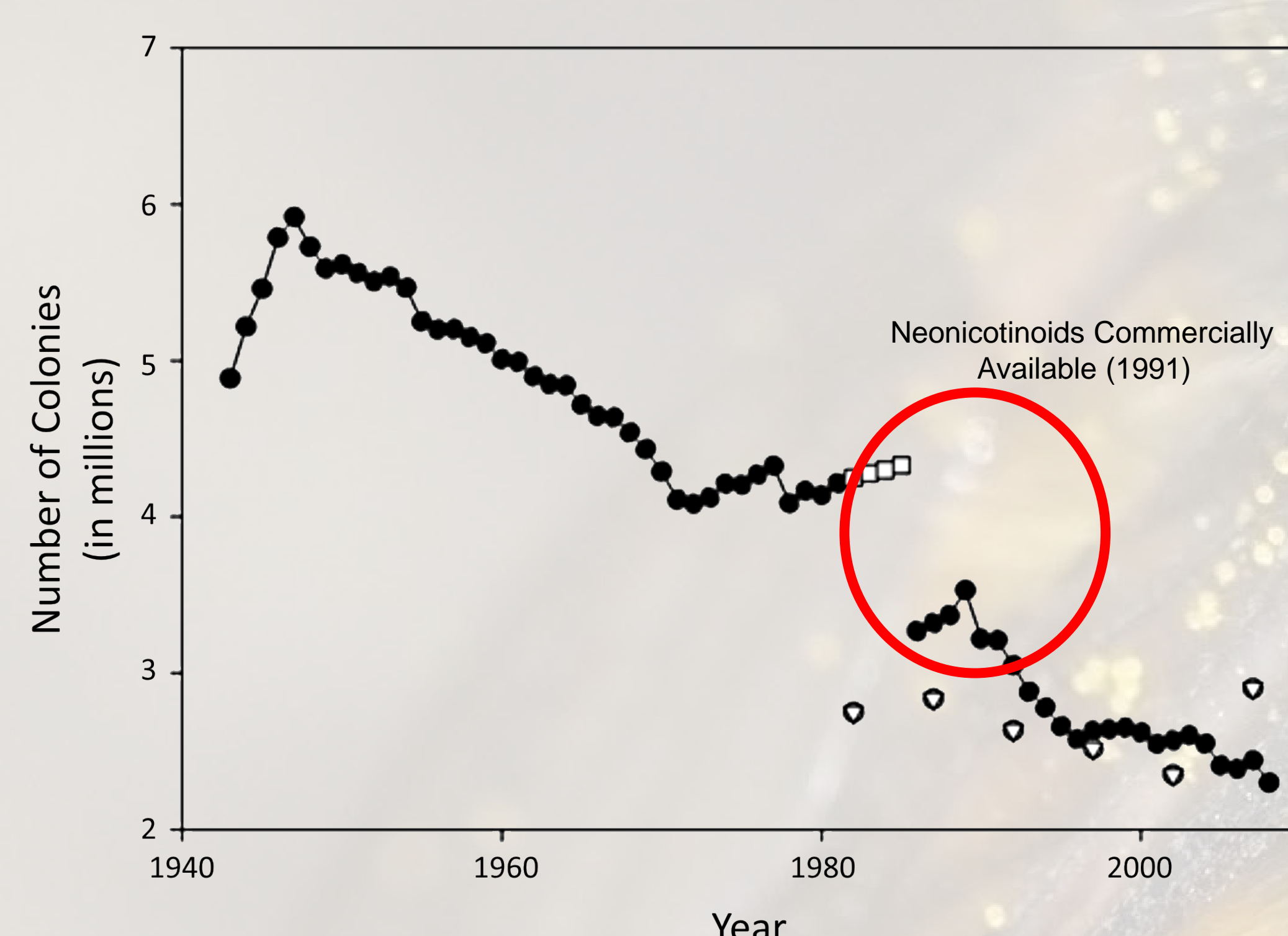
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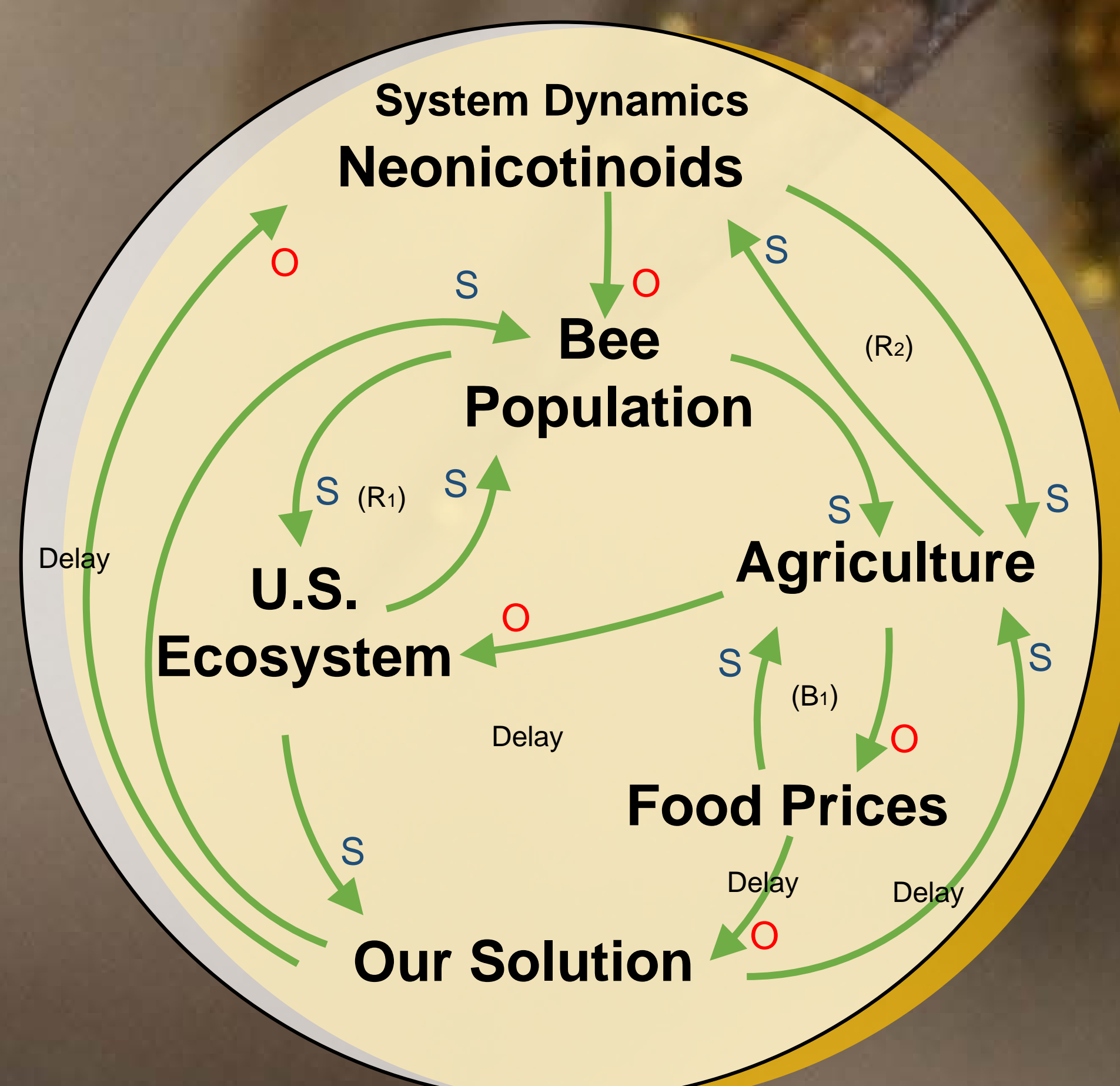
Problem & Background

- 68% of most produced monoculture crops dependent on bee pollination (Williams, 2010)
- \$15 billion sector in U.S. economy (Smith, 2013)
- Managed honeybees: 60% decline since 1940s (Vanengelsdorp, 2009)
- Notable causes of collapses: Agrochemicals (Neonicotinoids) and habitat loss (Smith, 2013)
- Lack of awareness

Numbers of Managed Honeybee Colonies in the U.S. Since 1940-2008



(USDA-BAE, 1949; USDA-AMS, 1955; USDA-NASS, 1967, 1972, 1978, 1981; Rodenberg, 1992; USDA-NASS, 1999, 2004a,b, 2009a,b)



System Dynamics Key
S: Positive Correlation
O: Negative Correlation
R: Reinforced Loop
B: Balanced Loop

Launch ad campaign

Create interest group on social media.

Influence legislative process

Develop Solution

Create informative website

Develop game based on system dynamics

Corporate Sponsorship (Burt's Bees)

Effects of Neonicotinoids
Weakens bees
Bees more likely to die from wintering

Identify Problem
Honeybee and Bumblebee population collapse

Identify Cause
Agrochemicals (Neonicotinoids), Urban stressors

Research Process

Project Goals

- Increase awareness
- Increase research done on all species of bees native to the U.S
- Legislation pass to ban neonicotinoids by 2016
- Feed global population by 2050

Benefits

- Agriculture productivity, higher crop yield
- Sustainable Agriculture
- More hospitable and aware United States
- Notoriety
- Influences legislation proposed

Recommendations

Short Term (First Year):

- Have homeowners plant specific flowers

Long term:

- Agrochemical corporations to avoid using bee harmful pesticides
- Influence honeybee interest groups to focus on bumblebees as well

Acknowledgements

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